- 41. The process of claim 39 wherein the at least one structural element capable of interacting with electromagnetic waves luminesces.
- 42. The process of claim 39 wherein spacing of the oligo- or polynucleotide structural elements is at least from 8 to 12 nucleotides.
- 43. The process of claim 1 wherein the sealed reaction chamber means includes (A) at least one multiple-well-containing sheet, each well comprising the sealed reaction chamber and including a probe for the at least one nucleic acid and lyophilized amplification reagents and (B) a sealing sheet cooperating with the multiple-well-containing sheet in a manner independently sealing each of the wells.
- 44. The process of claim 43 wherein the reagents are fixed and/or stored in at least one water-soluble matrix.
- 45. The process of claim 43 wherein the reagents are fixed and/or stored in at least one water-soluble matrix that includes a stabilizer.
- 46. The process of claim 43 wherein the reagents are fixed and/or stored in at least one water-soluble matrix that includes a sugar.
- 47. The process of claim \$\frac{1}{4}\$3 wherein the reagents are fixed and/or stored in at least one water-soluble matrix that includes trehalose or saccharose.
- 48. The process of claim 43 wherein the reagents include amplification primers, buffer components, at least one polymerase,

and co-factors.

- 49. The process of claim 43 wherein the reagents include amplification primers, buffer components, at least one polymerase, and co-factors.
- 50. The process of claim 43 wherein at least one sealed reaction chamber includes a reagent/probe-containing matrix including hybridization reagents as part of the sealing sheet.
- 51. The process of claim 43 wherein the sealed reaction chamber means is composed of kit systems.
- 52. The process of claim 1 including computer-controlled, time-dependent thermostating of the sealed reaction chamber means.
- 53. The process of claim 1 including optical excitation effecting emitting of a fluorescence signal and optical detection of the fluorescence signal.
- 54. The process of claim 1 wherein the excitation is by a laser.
- 55. A means for amplifying at least one nucleic acid comprising (A) at least one multiple-well-containing sheet, each well including a probe for the at least one nucleic acid and lyophilized amplification reagents and (B) a sealing sheet cooperating with the multiple-well-containing sheet in a manner independently sealing each of the wells effecting independent sealed reaction chambers.
- 56. The means of claim 55 wherein the reagents are fixed and/or stored in at least one water-soluble matrix.
 - 57. The means of claim 55 wherein the reagents are fixed

and/or stored in at least one water-soluble matrix that includes a stabilizer.

- 58. The means of claim 55 wherein the reagents are fixed and/or stored in at least one water-soluble matrix that includes a sugar.
- 59. The means of claim 55 wherein the reagents are fixed and/or stored in at least one water-soluble matrix that includes trehalose or saccharose.
- 60. The means of claim 55 wherein the reagents include amplification primers, buffer components, at least one polymerase, and co-factors.
- 61. The means of claim 55 wherein the reagents include amplification primers, buffer components, at least one polymerase, and co-factors.
- 62. The means of claim 55 wherein at least one sealed reaction chamber includes a reagent/probe-containing matrix including hybridization reagents as part of the sealing sheet.
 - 63. The means of claim 55 composed of kit systems.
- 64. The means of claim 55 including a computer that controls time-dependent thermostating of the independent sealed reaction chambers.
- 65. The means of claim 55 including an optical unit for excitation effecting emitting of a fluorescence signal and an optical detecting unit for detecting the signal.
- 66. The means of claim 55 wherein the optical unit is a laser.